

7969-284

1/30/2014

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL, SAFETY
AND POLLUTION PREVENTION

Christine Keating
BASF Corporation
PO Box 13528
26 Davis Dr
Research Triangle Park, NC 27709

JAN 30 2014

Subject: Labeling Amendment to Vivando Fungicide
EPA Registration No. 7969-284
Decision No. 484747
Submission Date: 10/28/13

Dear Ms Keating:

The labeling referred to above, submitted under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended to restrict the mixing of horticultural oils with this product during certain times of the grape growing season and update the label, is unconditionally acceptable under FIFRA 3(c)5. A stamped copy is enclosed for your records. Please submit one (1) final printed copy for the above mentioned label before releasing the product for shipment. If you have any questions, please contact Dominic Schuler at (703) 347-0260 or via email at schuler.dominic@epa.gov.

Sincerely,

A handwritten signature in black ink that reads "Tony Kish".

Tony Kish
Product Manager 22
Fungicide Branch
Registration Division (7504P)

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The Chemical Company

ACCEPTED

JAN 30 2014

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 7969-284

Vivando®

Fungicide

For use on grapes to control powdery mildew

Active Ingredient:

metrafenone: (3-bromo-6-methoxy-2-methylphenyl)(2,3,4-trimethoxy-6-methylphenyl)methanone 25.20%

Other Ingredients: 74.80%

Total: 100.00%

This product contains 2.5 lbs active ingredient per gallon.

EPA Reg. No. 7969-284

EPA Est. No.

KEEP OUT OF REACH OF CHILDREN
CAUTION/PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

See inside for complete **First Aid, Precautionary Statements, Directions For Use, Conditions of Sale and Warranty**, and state-specific crop and/or use site restrictions.

In case of an emergency endangering life or property involving this product, call day or night 1-800-832-HELP (4357).

Net Contents:

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after first 5 minutes; then continue rinsing eyes. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • DO NOT induce vomiting unless told to do so by a poison control center or doctor. • DO NOT give anything to an unconscious person.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth to mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOTLINE NUMBER	
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information: 1-800-832-HELP (4357).</p>	

Precautionary Statements

Hazards to Humans and Domestic Animals

Caution. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Engineering Controls Statement

When handlers use closed systems and enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Environmental Hazards

DO NOT apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment washwaters or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. This pesticide is toxic to fish and aquatic invertebrates.

Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

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Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **12 hours**. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Socks and shoes
- Chemical-resistant gloves made of any waterproof material

Storage and Disposal

DO NOT contaminate water, food, or feed by storage or disposal.

Pesticide Storage. Store in original containers only. Keep container closed when not in use. **DO NOT** store near food or feed. In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to label.

Pesticide Disposal. Wastes resulting from the use of this product may be disposed of on-site or at an approved waste disposal facility. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Handling

Nonrefillable Container. DO NOT reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying; then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures approved by state and local authorities.

(continued)

Storage and Disposal (continued)

Container Handling (continued)

Triple rinse containers small enough to shake (capacity ≤ 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Triple rinse containers too large to shake (capacity > 5 gallons) as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank, or store rinsate for later use or disposal. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank, or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

In Case of Spill

In case of large-scale spillage regarding this product, call:
CHEMTREC 1-800-424-9300
BASF Corporation 1-800-832-HELP (4357)

Steps to be taken in case this material is released or spilled:

Dike and contain spill with inert material (sand, earth, etc.) and transfer liquid and solid diking material to separate containers for disposal.

Remove contaminated clothing and wash affected skin areas with water. Wash clothing before reuse.

Keep spill out of all sewers and open bodies of water.

Product Information

Vivando™ fungicide is formulated as a suspension concentrate (SC). **Vivando** provides control of powdery mildew of grapes. **Vivando** provides optimum disease control when applied in a regularly scheduled protective fungicide program and when used in a spray program that rotates fungicides with different modes of action.

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Mode of Action

Metrafenone, the active ingredient in **Vivando™ fungicide**, affects several stages in the infection process of the powdery mildew pathogen. It has a different mode of action than that of other fungicides registered for use against grape powdery mildew. Metrafenone affects normal development and growth processes of the powdery mildew pathogen. It inhibits spore germination, infection, and subsequent mycelial growth. It also reduces sporulation by preventing normal development of conidiophores and conidia.

Resistance Management

Vivando contains metrafenone, a fungicide with a mode of action different from that of other fungicides currently registered for use against grape powdery mildew. **Vivando** is effective against pathogens resistant to other fungicides with a mode of action different than that of metrafenone. However, isolates of the powdery mildew pathogen may dominate the fungal population if metrafenone is used predominantly and repeatedly in the same vineyard in successive years as the primary method of control for the targeted powdery mildew pathogen species. This may result in reduction of disease control by **Vivando**.

The following recommendations may be considered to delay the development of fungicide resistance:

• Tank Mixtures

Use tank mixtures with fungicides from different target site of action groups that are registered/permitted for the same use and that are effective against the pathogens of concern. BASF recommends that no less than the minimum labeled rates of each fungicide in the tank mix be used.

• Integrated Pest Management (IPM)

Vivando should be integrated into an overall disease and pest management program. Cultural practices known to reduce disease development should be followed. Consult your local extension specialist, certified crop advisor and/or BASF representative for additional IPM strategies established for your area. **Vivando** may be used in Agricultural Extension advisory (disease forecasting) programs that recommend application timing based on environmental factors favorable for disease development.

• Monitoring

Monitor efficacy of all fungicides used in the disease management program against the targeted pathogen and record other factors that may influence fungicide performance and/or disease development. If **Vivando** appears to be less effective against a pathogen that it previously controlled or suppressed, contact a BASF representative, local extension specialist, or certified crop advisor for further investigation.

Grapes for specific application rates and application intervals.

Additives and General Tank Mixing Information

Under some conditions, the use of additives or adjuvants may improve the performance of **Vivando**.

Vivando can be tank mixed with most recommended fungicides, insecticides, liquid fertilizers, biological control products, adjuvants, and additives as specified in **Table 1. Use Directions for Grapes. DO NOT** mix **Vivando** with horticultural oils when making applications to grapes **after flowering begins**.

Please note that all varieties and cultivars have not been tested with all possible tank mix combinations. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Physical incompatibility, reduced disease control, or crop injury may result from mixing **Vivando** with other products. Therefore, before using any tank mix, test the combination on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of application.

Consult a BASF representative or local agricultural authorities for more information concerning additives.

Mixing Order

1. **Water.** Begin by agitating a thoroughly clean sprayer tank 3/4 full of clean water.
2. **Agitation.** Maintain constant agitation throughout mixing and application.
3. **Inductor.** If an inductor is used, rinse it thoroughly after each component has been added.
4. **Products in PVA bags.** Place any product contained in water-soluble PVA bags into the mixing tank. Wait until water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.
5. **Water-dispersible products** (dry flowables, wettable powders, suspension concentrates such as **Vivando**, or suspo-emulsions).
6. **Water-soluble products.**
7. **Emulsifiable concentrates** (such as oil concentrates when applicable).
8. **Water-soluble additives** (such as ammonium sulfate [AMS] or urea ammonium nitrate [UAN] when applicable).
9. Remaining quantity of water.

Make sure that each component is thoroughly mixed and suspended before adding tank mix partners. Maintain constant agitation during application. See **Table 1. Use Directions for Grapes** for more details.

Application Instructions

Ground Application Only

Vivando is not currently intended for aerial, chemigation, or handheld application methods.

Use **Vivando** in sufficient water to ensure thorough coverage of foliage and fruit. See **Table 1. Use Directions for**

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Restrictions and Limitations

- **Maximum Seasonal Use Rate:** 46.2 fl ozs **Vivando™ fungicide** (0.9 lbs ai per acre). **DO NOT** apply more than the maximum rate per acre per season as listed in **Table 1. Use Directions for Grapes.**
- **Maximum Rate per Application:** 15.4 fl ozs **Vivando** (0.30 lbs ai per acre). **DO NOT** apply more than the maximum rate per acre per application as listed in **Table 1. Use Directions for Grapes.**
- **Minimum Spray Interval:** **DO NOT** exceed the minimum spray interval of **14 days.**
- **Preharvest Interval:** **DO NOT** harvest earlier than the preharvest interval (PHI), as listed in **Table 1. Use Directions for Grapes.**

Table 1. Use Directions for Grapes

Vivando fungicide Rate per Acre				
Crop	Target Disease	Fluid Ounces of Product (lb ai) per acre	Maximum Product Rate per acre per season	Last Application Days to Harvest
Grapes	Powdery mildew	10.3 to 15.4 (0.20 to 0.30)	46.2 fl ozs (0.9 lbs ai)	14

Application Directions. For control of grape powdery mildew, begin applications of **Vivando** as of bud break prior to onset of disease, using 10.3 to 15.4 fl ozs per acre on a 14- to 21-day interval. Use the higher rate and the shorter interval when disease pressure is high. **Vivando** must be applied before visual symptoms of powdery mildew appear. **Vivando** has no curative properties and will not control latent or established infections of powdery mildew. If powdery mildew infection is established, **Vivando** should be applied in a tank mix combination or following application of a curative fungicide.

DO NOT apply at rates higher than 15.4 fl ozs product. **DO NOT** apply more than 46.2 fl ozs product (0.9 lbs ai) per acre per crop. The minimum interval between sprays is 14 days.

DO NOT mix **Vivando** with horticultural oils when making applications to grapes **after flowering begins.**

Resistance Management. To limit the potential for resistance, **DO NOT** make more than 3 applications of **Vivando** per season.

DO NOT make more than 2 sequential applications of **Vivando** before alternating to a labeled fungicide with a different mode of action.

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Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S EXCLUSIVE REMEDY AND BASF'S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF THE PRODUCT.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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